

CLAIMS

1. A method for producing high purity glycolic acid crystals from an aqueous glycolic acid solution, which
5 comprises the steps of:

(1) providing an aqueous glycolic acid solution (A) containing monomeric glycolic acid and a glycolic acid condensation product, said aqueous glycolic acid solution (A) having the following characteristics (a), (b)
10 and (c):

(a) a water content of from 5 to 20 % by weight,

(b) a calculated monomeric glycolic acid weight ratio of from 0.60 to 1.00, said calculated monomeric glycolic acid weight ratio being defined as a ratio of the
15 total weight of said monomeric glycolic acid and said glycolic acid condensation product to the weight of said aqueous solution (A), wherein the weight of said glycolic acid condensation product is expressed in terms of the weight of component monomeric glycolic acid of the
20 glycolic acid condensation product, and

(c) a monomeric glycolic acid content of from 20 to 57 % by weight,

(2) depositing glycolic acid crystals from said aqueous glycolic acid solution (A), and

25 (3) separating the deposited glycolic acid crystals

from said aqueous glycolic acid solution (A).

2. The method according to claim 1, wherein the deposition of glycolic acid crystals from said aqueous glycolic acid solution (A) in said step (2) is performed at
5 a temperature in the range of from -30 to 50 °C.

3. The method according to claim 1 or 2, wherein the deposition of glycolic acid crystals from said aqueous glycolic acid solution (A) in said step (2) is performed
10 in the presence of glycolic acid crystals as seed crystals.

4. The method according to any one of claims 1 to 3,
15 which further comprises, after said step (3), the step of:

(4) washing the separated glycolic acid crystals with an aqueous glycolic acid solution (B).

20 5. The method according to claim 4, wherein:

said aqueous glycolic acid solution (B) contains monomeric glycolic acid and optionally a glycolic acid condensation product, and

said aqueous glycolic acid solution (B) satisfies
25 the following formulae (I) and (II):

$$0.0055 \times T + 0.3 \leq W \leq 0.0072 \times T + 0.8 \quad (\text{I})$$

and

$$-5 \leq T \leq 70 \quad (\text{II})$$

wherein:

5 W represents a calculated monomeric glycolic acid weight ratio of the aqueous solution (B), said calculated monomeric glycolic acid weight ratio being defined as a ratio of the total weight of said monomeric glycolic acid and said glycolic acid condensation product to
10 the weight of said aqueous solution (B), wherein the weight of said glycolic acid condensation product is expressed in terms of the weight of component monomeric glycolic acid of
15 the glycolic acid condensation product, and

 T represents the temperature ($^{\circ}\text{C}$) of the aqueous solution (B).